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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,802	01/13/2004	Cynthia C. Bamdad	M1015.70070US01	1525
35736	7590	03/07/2008		
JHK LAW P.O. BOX 1078 LA CANADA, CA 91012-1078			EXAMINER FORMAN, BETTY J	
			ART UNIT	PAPER NUMBER
			1634	
			MAIL DATE	DELIVERY MODE
			03/07/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/756,802	Applicant(s) BAMDAD ET AL.	
	Examiner BJ Forman	Art Unit 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,119-125,127-129 and 131-134 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,119-125,127-129 and 131-134 is/are rejected.
- 7) ☒ Claim(s) 131 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 December 2007 has been entered.

Status of the Claims

2. This action is in response to papers filed 21 December 2007 in which claims 1, 122-125, 127-129, 131 were amended, claims 126, 130 were canceled and claims 132-134 were added. All of the amendments have been thoroughly reviewed and entered.

The previous rejections in the Office Action dated 31 January 2007 are withdrawn in view of the amendments. Applicant's arguments have been thoroughly reviewed but are deemed moot in view of the amendments, withdrawn rejections and new grounds for rejection. New grounds for rejection are discussed.

Claims 1, 119-125, 127-129 and 131-134 are under prosecution.

Claim Objections

3. Claim 131 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 131 depends from cancelled Claim 130 and therefore does not further limit a previous claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 131, 132 are rejected under 35 U.S.C. 102(b) as being anticipated by Bamdad (WO 98/31839, published 23 July 1998).

Regarding Claim 1, Bamdad discloses a method comprising providing a target molecule and oligo tag, each immobilized on a common surface and allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (paragraph spanning pages 37-38).

Regarding Claim 131, Bamdad et al disclose the method wherein non-hybridized oligos are separated i.e. surface is washed prior to detection (page 37).

Regarding Claim 132, Bamdad discloses a method comprising providing a peptide and oligo tag, each immobilized on a first surface (page 37, lines 28-31) and allowing the first surface to participate in a reaction with a drug candidate immobilized on a second surface (page 37, lines 31-32) and determining participation by identifying the oligo tag on the surface (paragraph spanning pages 37-38).

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6. Claims 1, 119-122, 127-129 and 131-132 are rejected under 35 U.S.C. 102(e) as being anticipated by Bamdad et al (U.S. Patent No. 6,541,617, filed 27 October 1999).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding Claim 1, Bamdad discloses a method comprising providing a target molecule and oligo tag (e.g. recruitment linker, Fig. 1H #90 and Column 55, lines 17-24) each immobilized on a common surface and allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (Fig. 1, Column 2, lines 39-67).

Regarding Claims 119-121, Bamdad et al disclose the method wherein the surface comprises a gold colloid and the biological species is immobilized via a self-assembled monolayer (Column 2, lines 6-16).

Regarding Claim 122, Bamdad et al disclose the method wherein the biological species is immobilized via a metal binding tag-metal-chelate linkage (Column 29, line 25-Column 36, line 10).

Regarding Claim 127, Bamdad et al disclose the method wherein the first surface is a nanoparticle e.g. colloidal gold (Fig. 1, Column 2, lines 39-67, Column 8, lines 55-67).

Regarding Claim 128, Bamdad et al disclose the method wherein the oligo identifier is identified by a complementary oligo having a first portion complementary to the identifier (Column 55, lines 16-67).

Regarding Claim 129, Bamdad et al disclose the method further comprising allowing a first biological species, immobilized on a first surface to interact with a second biological

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species, immobilized on a second surface-and determining the interaction by identifying an interaction hybridization identifier that is complementary to a combination of a first oligonucleotide identifier immobilized on the first surface of the a second oligonucleotide identifier immobilized on the second surface (Fig. 1, Column 2, lines 39-67, Column 8, lines 55-67 and Column 55, lines 17-24)

Regarding Claim 131, Bamdad et al disclose the method wherein non-hybridized oligos are separated i.e. surface is washed prior to detection (Column 26, line 64-Column 27, line 16).

Regarding Claim 132, Bamdad discloses a method comprising providing a target molecule and oligo tag (e.g. recruitment linker, Fig. 1H #90 and Column 55, lines 17-24) each immobilized on a first surface, providing a target immobilized on a second surface, allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface wherein the first surface is a nanoparticle e.g. colloidal gold (Fig. 1, Column 2, lines 39-67, Column 8, lines 55-67).

7. Claims 1, 119-120, 123, 125, 127-129 and 131-132 are rejected under 35 U.S.C. 102(b) as being anticipated by Dower et al (U.S. Patent No. 5,639,603, issued 17 June 1997).

Regarding Claim 1, Dower et al discloses a method comprising providing a target molecule and oligo tag each immobilized on a common surface and allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (Claims 1-8, Column 3, line 66-Column 4, line 18).

Regarding Claims 119-120, Dower et al disclose the method wherein the surface comprises a gold colloid (Column 11, lines 35-38).

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Regarding Claim 123, Dower et al disclose the method wherein during the allowing step, the oligo identifier (i.e. primer) is immobilized and determining includes separating the identifier (Column 18, line 54-Column 20, line 25).

Regarding Claim 125, Dower et al disclose the method wherein the identifier is identified by fluorescent sequencing (Column 21, lines 37-50).

Regarding Claim 127, Dower et al disclose the method wherein the first surface is colloidal gold (Column 11, lines 35-38).

Regarding Claim 128, Dower et al disclose the method wherein the oligo identifier is identified by a complementary oligo having a first portion complementary to the identifier i.e. regions of the oligo are complementary to primer-binding sites (Column 18, line 54-Column 19, line 35).

Regarding Claim 129, Dower et al disclose the method comprising allowing a first biological species, immobilized on a first surface to interact with a second biological species, immobilized on a second surface-and determining the interaction by identifying an interaction hybridization identifier that is complementary to a combination of a first oligonucleotide identifier immobilized on the first surface of the a second oligonucleotide identifier immobilized on the second surface (Claims 1-8, Column 3, line 66-Column 4, line 18 and Column 11, lines 35-38 and 57-60).

Regarding Claim 131, Dower et al disclose the method wherein non-hybridized oligos are separated prior to detection (Example 1, Column 47, lines 8-29).

Regarding Claim 132, Dower et al discloses a method comprising providing a target molecule and oligo tag each immobilized on a first surface, providing a target on a second surface (Claim 7) allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (Claims 1-8, Column 3, line 66-Column 4, line 18) wherein the first surface is a nanoparticles (Column 11, lines 35-38 and 57-60).

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Regarding Claim 133-134, Dower et al discloses the method wherein the oligo identifier is identified by PCR (Column 18, line 54-Column 20, line 25).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 121-122 and 124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dower et al (U.S. Patent No. 5,639,603, issued 17 June 1997) in view of Bamdad (WO 98/31839, published 23 July 1998).

Regarding Claims 121-122 and 124, Dower et al discloses a method comprising providing a biological molecule and oligo tag each immobilized on a common surface and allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (Claims 1-8, Column 3, line 66-Column 4, line 18). Dower et al teach the method wherein the surface is colloidal gold (Column 11, lines 35-38) but does not teach the particle has a self-assembled monolayer wherein the oligo and/or are immobilized via a metal binding tag-metal-chelate linkage. However, colloidal gold having the SAM layer and linkage was well known in the art at the time the claimed invention was made as taught by Bamdad.

Bamdad teaches a similar method comprising providing a target molecule and oligo tag, each immobilized on a common surface and allowing the target to participate in a reaction and determining participation by identifying the oligo tag on the surface (paragraph spanning pages

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37-38) wherein the preferred supports are gold and have a self-assembled monolayer whereby the biological molecules are immobilized via a metal binding tag-metal-chelate linkage (pages 6-9). Bamdad teaches the supports provide for the detection of a conformation change in single molecules and is inexpensive, easily scalable and therefore useful for mass screenings (page 64, lines 9-28).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the self-assembled monolayer and metal binding tag-metal-chelate linkage taught by Bamdad to the gold particles of Dower et al. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success and for the benefit of an inexpensive means for mass detection of conformational changes at the single molecule level as taught by Bamdad (page 64, lines 9-28).

Conclusion

10. No claim is allowed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BJ Forman/
Primary Examiner, Art Unit 1634